



THEME
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THE DATA DRIVE

The mountain of data generated in today's digital world has the power to change the way Maersk Group does business. Smart use of data is the key to "sweating the assets," says Jasper Boessenkool, Head of Strategic R&D at Maersk Maritime Technology. "It means squeezing the maximum out of the millions of dollars we have tied up in very costly, heavy assets."

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Oil cleaning with
sheep's wool

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All work, and
some play

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Ugly duckling becomes
billion-dollar port



Spare parts – just press print

INNOVATION | 3D printing could be set to revolutionise the supply chain in Maersk Tankers. Markus Kuhn and Martha Rehnberg from Group Procurement Marine stand in front of the printer: “The ideal scenario would be that you order a digital blueprint of the spare part and the crew prints it out.”

Going paperless

INNOVATION | Maersk Line in Vietnam leads the local industry on e-savviness. General Director Bich Nguyen believes that increasing productivity through technological transfer for companies is a major way of boosting Vietnam’s competitiveness.



Danish oil production

INNOVATION | New ideas and technologies are needed to extend the productive lifetime of oil and gas in the North Sea. This is why the Danish Underground Consortium (DUC) has high expectations for its DKK 1 billion investment in a new research centre.



PHOTO: ALAMY

Automakers in new markets

TOMORROW’S UNKNOWN WINNERS | Establishing plants in growth markets, automakers face new challenges. Maersk Line is poised to help them set up.

Innovation happens every day



N.S. Andersen

Nils S. Andersen, Group CEO

Great ideas in our industries can change the world. The invention of container shipping in the 1950s is an example of how a simple idea transformed the way that goods were transported, leading to a revolution in the shipping industry and shaping the future of global commerce.

That this revolution sprung from the idea of using a metal container to pack cargo goes to show that innovation doesn't always mean technology breakthroughs or inventing new products.

Instead, innovation can be about adapting the business model and figuring out better ways of doing things. This is how we try to innovate every day at Maersk Group.

The stories in this issue of Maersk Post explore how we are innovating to find better ways to serve our customers. For example, Maersk Line has developed new solutions for customers in the car industry to help them grow their business in new markets, and to ensure that the thousands of car parts needed to make one vehicle flow steadily through the supply chain.

We are innovating to ensure that we carry out our operations in the safest way possible. The design of APM Terminal's new terminal in Rotterdam, Maasvlakte II, is

aimed at totally eliminating any potential for accidents from falling containers, through clever solutions that keep man and machine as far apart from each other as possible.

We are also innovating to maintain our edge on the competition. By embracing new trends in technology – from smart data use to 3D printing – and adapting these to improve our business models, we are coming up with new ways to increase the efficiency of our assets and cut costs in many different areas such as fuel, maintenance and procurement.

"Great ideas in our industries can change the world"

The rapid technological advances taking place in the world today have opened the door to new opportunities for us to do better business.

How we embrace these opportunities and use them to innovate our operations could transform our business and society and, just like the shipping container once did, could even change the world.

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With sheep's wool – a big break for oil cleaning

A WELL-OILED PARTNERSHIP | GreenOil worked with Maersk Line to develop an oil filter, which after proving its worth is being installed on the Triple-E vessels. Sheep's wool is now poised for commercial success.

BY ANDERS ROSENDAHL

➤ “We needed a partner to test our prototype. Maersk Line did that and gave us feedback, and that has helped us win a market-leading position,” says CEO at GreenOil, Hans Lund.

“We were familiar with this type of system, but we want to be challenged and are keen to be part of the process. The easiest thing is to continue doing what we’ve always done, but we want to keep improving,” says Jeppe Storm, Fleet Superintendent at Maersk Line.

Storm and Lund have worked together for a long time. The partnership which began in 2007 between GreenOil, a small Danish engineering company, and Maersk Line has reached a preliminary high point, as GreenOil’s oil filters are now being installed on all Triple-E vessels.

Developing the product, GreenOil discovered that sheep’s wool made an extremely good filter because it has a rougher surface than the synthetic fibre commonly used for filters, thus enhancing

its filtering ability. Nobody else used it. When looking to remove the water from the oil, they also found a new approach which involved heating only the water and not the oil, cutting energy consumption drastically. They took out of patent on the latter.

“Working with Maersk Line has made the process faster and more direct, because they have a level of knowledge and facilities that few others can match. We have been able to inspire each other and I hope it does not end here. We want to continue developing the products further and meet the demand of the industry in coming years,” Hans Lund says.

LESS MAINTENANCE

When GreenOil was established ten years ago, the mission was to make a better offline oil filter for vessels, first removing particles and then water from the oil, making the oil almost as good as new.

The principle is simple: any piece of machinery has moving



Developing the product, GreenOil discovered that sheep's wool made an extremely good filter because it has a rougher surface than the synthetic fibre commonly used for filters, thus enhancing its filtering ability.

PHOTO: ISTOCKPHOTO



From sheep's wool to oil filter.



"We put offline filters on the cranes on the WAFMAX vessels after they had been in service for a year, and the number of particles in the oil dropped dramatically," says CEO at GreenOil, Hans Lund.

parts. Oil helps them to move properly. In addition to the main engine, a vessel has many smaller oil reservoirs, e.g. for the steering mechanism, gearboxes and hydraulic cranes – up to 15 on large container vessels. Instead of changing the oil every so often, an offline oil filter that runs independently of the machine can keep the oil clean, thus avoiding unnecessary wear.

The offline system runs its own cycle, cleaning the oil around the clock. Even if the machine, such as a crane on a vessel, is only in use every 14 days, its oil is kept clean and effective. This means less frequent oil changes, and more importantly an extended lifetime of the essential components in the machinery.

"We put offline filters on the cranes on the WAFMAX vessels after they had been in service for a year, and the number of particles in the oil dropped dramatically. Of course, those vessels call at West African ports where there are not many options for service, and so this will surely increase reliability," Storm says. ✱

NEWS IN BRIEF

Smartphone game focuses on safety

In an effort to increase focus on safety, SVITZER recently released a game called Shipshaper for smartphones and tablets.

'Shipshape' simply means a tidy and hence a safe work environment, both on board vessels and in offices. With this in mind, SVITZER is focusing on being 'shipshape' at work with the aim of reaching a zero-incidents safety record through behavioural change.

Shipshaper is a fun and challenging game that reminds shipping industry employees of the safety risks and hazards on board vessels and in offices.

Mika Bildsøe Lassen, Head of Communications, says:

"At SVITZER we are determined to put safety high on the agenda, both in our company and the shipping industry. Taking safety for granted is one of the biggest threats to the lives of shipping industry employees, and the Shipshaper game is an interactive and fun tool for our industry employees to remember the importance of a tidy and safe work environment."

Shipshaper also gives you the chance to win a number of prizes. Once a month for the next three months, SVITZER holds one draw for their employees and another for Maersk Group employees to give away one iPad, three Maersk Lego vessels and 50 specially designed T-shirts.

The Shipshaper game can be downloaded from the Apple App store and Google Play. See if you can beat the score of Robert Uggla, CEO of SVITZER – 801 metres and the prevention of 148 incidents.



Maersk Group first quarter results

The Group reported a profit of USD 1.2 billion and return on invested capital of 10% – the highest since Q1 2012. Profit excluding one-off costs was USD 1.1 billion – an increase of 51% on the same period last year.

Group CEO Nils S. Andersen described the result as "a good start to the year".

"We can be satisfied with our progress in the first quarter towards achieving our strategic goals. Each of our core businesses contributed positively to the good result, apart from Maersk Drilling."

"Our target is to achieve more than 10% return on invested capital in all businesses over the cycle," said Nils S. Andersen.

A solid operational performance across the board means that the Group's expectation for its full-year underlying profit has been upgraded from USD 3.6 billion to around USD 4 billion.



Spare parts – just press print

INDUSTRIAL REVOLUTION | 3D printing could be set to revolutionise the supply chain in Maersk Tankers.

BY MONIKA CANTY

> What happens when a critical engine part on a tanker vessel breaks down? Dealing with equipment malfunctions is a daily challenge for the crew on board. And for the procurement team on the ground, the job is to get the parts on to the vessel as fast as possible. This involves a race to locate the part, get it to the next port of call and then charter a special boat to make the delivery (due to their dangerous cargo, tankers are usually forbidden from entering into the main port area).

The logistics are further complicated by the fact that tankers don't stick to a sched-

ule. Markus Kuhn, Purchasing Manager at Group Procurement Marine, explains: "Two thirds of our fleet is on spot trade, so customers charter a vessel not knowing exactly where the cargo will be discharged – it could be anywhere from Venezuela to Houston." It all adds up to a very costly and complex logistical operation, with a huge carbon footprint involved.

PRINTING ON BOARD

An experiment now under way aims to tackle these challenges with 3D printing. The idea is to install a 3D printer on a tanker

vessel to allow the crew to 'print off' parts they need.

Kuhn explains: "The ideal scenario is that you order a spare part from the manufacturer, they email over a digital blueprint, the crew presses a button and it prints out."

3D printers use laser beams to melt down a raw material, building up the product layer upon layer. In recent years the technology has developed to allow printing in plastic and metal, resulting in a flood of interest from some of the world's biggest companies which are using it to speed up production and create complex, lightweight



A 3D-printed plastic fan for an electrical motor. Markus Kuhn (left), Purchasing Manager, Group Procurement Marine and Märtha Rehnberg (right), Group Procurement Marine are driving the 3D printing project. "The fans break down quite often and are difficult to get hold of. Often we've had to buy a brand new electric motor which is very expensive. We showed the fan we printed to the technicians in Maersk Tankers and they said it looks just like the original," says Kuhn.

of warehouse and packing, airfreight to the port, customs clearance and chartering of the delivery ship," says Kuhn.

LIMITLESS POSSIBILITIES

Being a very new technology means there are many unknowns, including how to license products from suppliers. The plan is to team up with manufacturers to develop the technology in partnerships. Hans Oxholm Mortensen, Senior Manager at MAN Diesel & Turbo which supplies engine parts to Maersk, is enthusiastic about the idea: "We see it as an opportunity to collaborate with Maersk on 3D printing. Either you hop on the train and start learning, or you stay behind and watch the train leave.

Materials are another issue. Some 90% of engine parts are metal, but the days of having metal printers on board could be some way off yet. "The technology is there, but it's a matter of cost," says Rehnberg. "Today a metal printer costs about USD 1 million, compared to USD 25,000 for an industrial plastic one."

But if the trial proves a success, 3D printing could be used to tackle similar challenges across the whole Group, such as equipment breakdowns on drilling rigs or oil platforms. Peter Steen Olesen, Head

of Group Procurement, Marine Tankers believes that the possibilities for using the new technology are limitless.

"Why transport something when you can print it out on board? We see exciting opportunities for 3D printing to cut carbon footprint and transport costs, and provide on-demand availability. Only imagination sets the limit as to where this technology could go." *

Who uses 3D Printing?

- General Electric is printing fuel nozzles for jet engines. The nozzles used to be composed of 18 different parts, but now they are just a single piece, making them 25% lighter.
- The US Navy uses 3D printers on vessels to print oil caps and drain plugs.
- NASA uses 3D printers on space ships, allowing astronauts to print off essential equipment while out in space.



Märtha Rehnberg explains how a 3D printer works.

parts at a fraction of the cost. Märtha Rehnberg at Group Procurement Marine, who is driving the project with fellow students at Copenhagen Business School, believes 3D printing could revolutionise the supply chain. "Today you can print very complex parts you never imagined could be printed before. All you need is the 3D blueprint."

It's not yet known how far the technology could be used on board, but even printing a few spare parts would have a major impact on supply chain costs. "It can cost up to USD 5,000 just to get one part on board a vessel. 3D printing would eliminate costs

GOING PAPERLESS

INCREASING PRODUCTIVITY | Maersk Line in Vietnam leads the local industry on e-savviness. General Director Bich Nguyen believes that increasing productivity through technological transfer for companies is a major way of boosting Vietnam's competitiveness.

BY TAN YI HUI

> Each day, as thousands of containers are shipped back and forth by Maersk Line between Vietnam and the world, an unseen and even larger number of transactions are happening online. From documents to invoices and customs declarations, the 'e-paperwork' is endless.

But thanks to automated systems, accuracy, transparency and visibility of data implemented by Maersk Line in Vietnam, a booking that previously would have taken two hours can now be done in less than ten minutes. APL Logistics is a client of Maersk Line in Vietnam, and Export Team Leader Nguyen Francra Ninh says that she remembered that it took around two working hours or more to receive booking confirmation last year.

"Now it's just five minutes for booking confirmation or 30 minutes at most," Nguyen Francra Ninh says.

Last year, Maersk Line Vietnam shipped 9,412 FEU (forty-foot equivalent units) for this client.

In 2002, Maersk Line Vietnam began streamlining its e-booking, e-documentation, e-tracking and most other customer transactions. Paperless transactions have allowed for a move away from complex manual processes, focusing instead on improving customer experience. Maersk Line also recently conducted a local customer survey, which found that seven out of ten clients strongly believe that e-commerce is important to their businesses.

General Director of Maersk Line Vietnam and Cambodia, Bich Nguyen, says Maersk saw the trend towards e-solutions and its sweeping benefits many years ago.

"And we knew it would transform not just the shipping industry, but also the



PHOTO: PHAM THI BICH DUNG

General Director of Maersk Line Vietnam and Cambodia, Bich Nguyen: "Maersk saw the trend towards e-solutions and its sweeping benefits many years ago, and we knew it would transform not just the shipping industry, but also the business world, which is why we stayed ahead of the game with company-wide e-solutions practices before any of our competitors."

business world, which is why we stayed ahead of the game with company-wide e-solutions practices before any of our competitors."

A TREND TOWARDS E-SOLUTIONS

Vietnam's internet penetration is high, relative to its urban population. Of Vietnam's 90 million population, 36% use the Internet, and 32% live in urban areas. In line with these demographics are the findings of the Vietnam E-commerce Report, which found that the country's e-commerce industry is booming, where 100% of business and enterprise survey respondents use Internet

and email for work, and 65% had specialised e-commerce staff.

What all this implies for Maersk Line is that clients with local offices here are well aware of its competitive edge when it comes to e-solutions offered in its services.

Nguyen Trang from Panalpina's Europe documentation team for the European sector says: "it's very impressive to see the improvement that Maersk Line has had in sending the bill draft to us, due to their faster system. It takes just around one hour, a very far cry from other carriers that require about half a day to do the same."



For a developing country like Vietnam, its internet penetration is high, relative to its urban population.

Current **e-solutions** offered to customers:

✓ **E-BOOKING:**

A simple, intuitive and efficient booking tool with fewer fields, a user-friendly interface and the ability to duplicate bookings.

✓ **E-DOCUMENTATION:**

For customers to submit shipping instructions, approve verified copies, submit documentation and view or print their original bill of lading.

✓ **E-AMENDMENT:**

To revise/edit bookings online for faster turnaround within an hour, with no need to send an email.

✓ **E-TRACKING**

The online search and monitoring of shipments by simply entering the shipment number, transport document number or container number to access shipment information.

"This fast service provides our customers with extra time to settle other matters pertaining to their shipments," Trang adds.

FEWER MISTAKES

Maersk Line's Bich Nguyen says: "E-solutions mean less time, fewer mistakes and less, if not zero, additional costs being incurred due to documentation errors. As Vietnam seeks to compete in the world economy and trade in higher value-added goods under just-in-time productions, transaction speed and reliability of service will be key."

She sums up as follows: "For businesses on the whole, e-solutions mean more opportunities, including increased productivity and savings, thereby attracting more investments. This is an exciting time for Vietnam if we focus on the right methods for driving competitiveness." ✱

THE DATA



PHOTO: CHRISTIAAN DIRKSEN

THEME | THE POWER OF DATA

Gathering data and crunching the numbers to make business decisions is nothing new. But in today's digital world, where everything is connected via the internet and every action leaves behind an online trail, the sheer amount of data available to monitor, collect and analyse has reached a level never seen before. The amount of data is so big that it's become known as 'big data', and if used in a smart way, it has the power to transform the way companies do business.

DRIVE

Jasper Boessenkool, Head of Strategic R&D, Maersk Maritime Technology says cutting bunker bills could be just the tip of the iceberg in terms of data use. "New developments in sensor technology and analytics mean decisions can be made based on data coming directly from the ships. There are lots of areas where we could improve performance."

SWEATING THE ASSETS | The mountain of data being generated in today's digital world could transform the way Maersk Group does business – the question is how to use it?

BY MONIKA CANTY

➤ In Mumbai, Domingos dos Reis Silva Jr monitors a world map projected onto a giant screen. He is watching the progress of hundreds of blue and red dots, each pinpointing the exact location of a Maersk Line vessel as it goes about its voyage.

Domingos heads Maersk Line's Global Voyage Centre, where a team of senior seafarers monitor 200 ships, 24 hours a day, seven-days a week. "We have access to the same navigational aids

as on board so all the information is at our fingertips. It means we get real-time updates on the ship's position, speed, direction and even the weather conditions."

The flow of real-time data means immediate action can be taken when something doesn't go to plan. "The voyage plan for each ship before setting off is compared to the best in class in our database. Our role is to ensure it keeps to the plan and to pick up



on deviations. Effective communication with the crews means we support them in executing the most efficient and economical voyage."

An alarm sounds indicating that Emma Mærsk in the North Sea is five knots above her planned speed, and an immediate investigation is made to find out why. The team deals with around 7,000 of these alarms every month. "We also monitor global natural incidents," says Domingos. "When an earthquake triggered a tsunami warning in Chile, our interaction with ships sailing in the region began less than an hour after the incident."

Such close monitoring helped Maersk Line save USD 8.5 million in bunker fuel costs last year, as well as providing valuable support for the safety of crews on board.

THE POWER OF DATA

It's just one example of how smart data use is transforming the way Maersk Group does business. In today's digital world, where everything is connected via the internet, and every action leaves an online trail, a mountain of data is generated every day that could be used to make critical business decisions.

"The captains called us 'Big Brother'. But now they understand the value of what we do and we work together as one team"

DOMINGOS DOS REIS SILVA JR, HEAD OF MAERSK LINE'S GLOBAL VOYAGE CENTRE

Jasper Boessenkool, Head of Strategic R&D, Maersk Maritime Technology says cutting bunker bills could be just the tip of the iceberg in terms of data use. "New developments in sensor technology and analytics mean decisions can be made based on data coming directly from the ships. There are lots of areas where we could improve performance – the dialogue between the ship and the terminal for example. The worst thing is when a ship has to wait in a terminal, then speed up to meet its schedule. That causes waste beyond imagination because it costs so much in fuel."

SMARTER MAINTENANCE

The huge expense faced by the Group in maintaining its assets, means a great deal of excitement about how data could be used to shave down these costs.

"When you design a ship, an engine or a rig, you make assessments in terms of

when to maintain or upgrade on a fairly fixed time schedule," says Boessenkool. "But our ability to gather and monitor data today could pave the way for a completely new kind of maintenance management system."

This could have major implications in the oil industry where maintenance costs rapidly mount up. Frederik Smidth, Chief Technical Officer at Maersk Drilling estimates the total cost of maintaining a drill-ship over a 20-year lifespan to be around USD 750 million. "The annual upkeep is USD 15 million in hardware plus man-hours. Then every five years there's a yard stay which could cost USD 70 million, plus two months of downtime worth USD 30 million. If we could cut even 10% off these costs, we are looking at something very interesting."

Oil wells must also be shut down periodically for maintenance and safety. "It's



In Mumbai, Domingos dos Reis Silva Jr monitors a world map projected onto a giant screen. He is watching the progress of hundreds of blue and red dots, each pinpointing the exact location of a Maersk Line vessel as it goes about its voyage.

very costly," says Henrik Tirsgaard, Head of Corporate Technology & Innovation at Maersk Oil. "Say the well produces 4,000 barrels of oil per day, if each barrel is USD 100 that's USD 400,000 lost per day."

"Having a 'real-time' information flow could make us better placed to make decisions on when to upgrade equipment and potentially save a lot of money. One idea is to measure corrosion using acoustic signals. Combined with other parameters such as salinity of the produced water we could create a more accurate picture of when equipment needs changing."

SWEATING THE ASSETS

Using data in this way is all about "sweating the assets," says Boessenkool. "It means squeezing the maximum out of the millions of dollars we have tied up in very

costly, heavy assets. Being a big operator gives us a major advantage in terms of data available to us. If you only have two ships, you only have so much data. If you operate 800 ships, you have data you can apply on a completely different scale."

In fact, Boessenkool believes the data generated by the Group is so valuable it should be treated as an asset in itself.

"We need to look at data and take care of it in the same way we do an asset such as a ship or a drilling rig. I think we are just beginning to discover what data can do for us. The question now is how we experiment with it, find the potential, prove the value and use our knowledge across the Group to share that journey."

BIG DATA IS WATCHING YOU

But while the potential of 'big data' might

appear limitless, implementing it has its challenges. "Asking people to make decisions less on gut feeling and experience, and more on pure data analysis, means a significant cultural shift. Suddenly you change how people work," says Tirsgaard. "Monitoring and measuring every action through data acquisition has a 'Big Brother' feel to it. But it should be used for learning and not blaming."

Back in the Global Voyage Centre, Domingos admits there was some resistance when monitoring first began. "The captains called us 'Big Brother'. But now they understand the value of what we do and we work together as one team."

While data can help in decision-making, it doesn't take away the human factor, he says. "We never make decisions for the captains. We are here to support, but it's always the captain's responsibility to make the final command at sea." ✱

"Our ability to gather and monitor data today could pave the way for a completely new kind of maintenance management system"

JASPER BOESSENKOOL, HEAD OF STRATEGIC R&D, MAERSK MARITIME TECHNOLOGY

Read on to find out how Maersk Drilling, APM Terminals and Maersk Oil are optimising their business with intelligent data use.



The secret to happy customers

DELIGHTED CUSTOMERS | A culture of continuous improvement has emerged at Maersk Drilling, saving its customers millions in operations and making the company more profitable. Data has helped drive the change, and the customers are delighted.

BY ANDERS ROSENDAHL

> Drilling is not just a straight-down job. You drill down, do flat-spot operations and then drill further down. Step by step. One type of flat-spot operation is 'tripping'. Here, the driller pulls the drilling string out of the wellbore and then runs it back in. This could be done to replace a worn-out drill bit.

When Maersk Drilling began working with structured performance data four years ago, they discovered that better flat-spot operations could actually reduce the number of days that customers would need to complete drilling programmes costing USD 1 million a day.

"Improving flat-spot operations and reducing non-productive time by 10% could save our customers more than USD 100 million a year," Senior Director, Head of Performance and Processes at Maersk Drilling, Lars Østergaard, recalls. "And we did not need new records to do this, only more consistent operations."

CONTINUOUS LEARNING

Østergaard and his team worked in four steps. One, define measurable KPIs (key performance indicators) on key-value drivers and allow crews to see how they perform. Two, analyse the numbers and find potential. Three, design and implement improvement tools across the fleet. Four, follow up on improvements and make them visible to customers.

"Looking at the numbers, we found a strong link between the performance of a rig and the question in the employee engagement survey that says 'my team learns from successes and mistakes'. Therefore, one of the things we implemented was after-action reviews, which is

a structured way to learn from successes and mistakes," Østergaard says.

Initially, the change was pushed by KPIs, but it quickly became embedded in the crews, who then took it to the next level. So far, more than 2,000 'lessons learnt' have been submitted.

"The guys on the rigs are doing this because it makes sense to them. They track the lessons learnt and assign actions to improve. We make best practice available across the fleet," Østergaard says.

"Data does not always reveal anything new to experienced people in operations, but it makes issues visible in a factual way"

LARS ØSTERGAARD, SENIOR DIRECTOR, HEAD OF PERFORMANCE AND PROCESSES AT MAERSK DRILLING

Thus, Maersk Drilling has reduced the time needed to drill wells and unproductive time, saving its customers between USD 100-150 million in 2013. Maersk Drilling's uptime has also improved, inching up to 97% in 2013.

In the drilling business, value drivers are quite straightforward, and continuous improvement, not drastic change, unlocks the value in a controlled and safe manner.

"Data does not always reveal anything new to experienced people in operations, but it makes issues visible in a factual way. They would probably reach the same conclusions without the support of data, but

data makes for faster and more precise decision-making," Lars Østergaard says.

Maersk Drilling is venturing into the next step of the project, making value and cost-cutting initiatives visible to customers. As Østergaard says, this is "early days" as far as specific results are concerned, but the efforts fit hand in glove with Maersk Drilling's ambition to become a preferred supplier in the industry, already being a strategic partner of oil majors such as BP and ConocoPhillips.

Customers have, however, begun acknowledging the improvements through another channel. Customer satisfaction, measured on a scale from one to seven, is at an all-time high, turning high scores of seven into a common rating. Moreover, the perception on the rigs has changed.

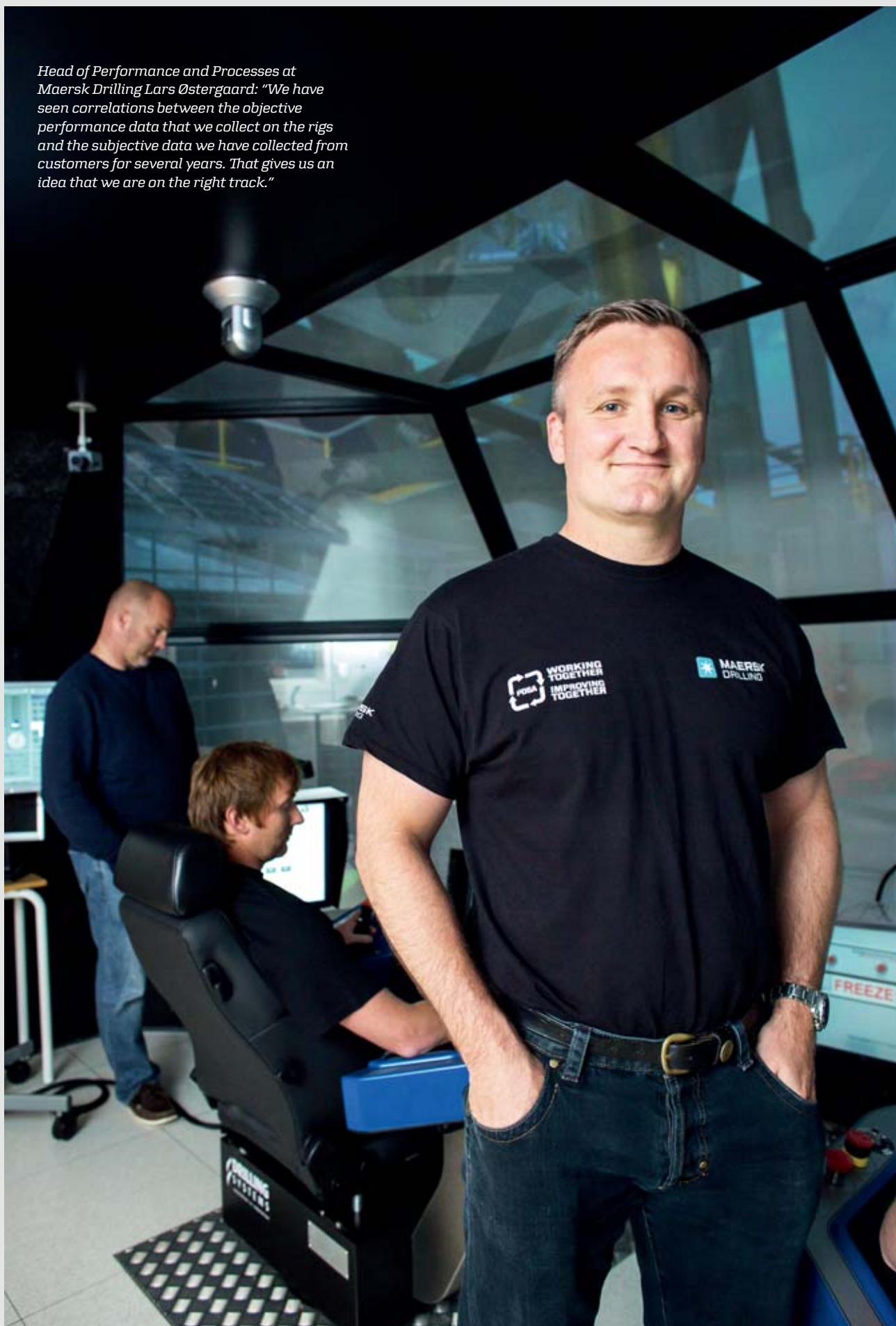
"When we began, I had discussions with operations managers about the limits of performance and customer satisfaction. Some said that 2,400 feet/hour on tripping speed was impossible. Now they are doing 2,900 feet/hour. Others said that a customer satisfaction rating of seven was unreachable, because the business just doesn't work that way. Now they have scores of seven across the board. These talks are all behind us," Østergaard says.

Today, Maersk Drilling has the best customer satisfaction in the history of the company, and examples of scores of seven across the board in Norway, the U.S. Gulf of Mexico, West Africa, Australia and Brunei prompt a modest conclusion from Østergaard:

"We have seen correlations between the very objective performance data that we collect on the rigs and the very subjective data we have collected from customers for several years. That gives us an idea that we are on the right track." ■

Head of Performance and Processes at Maersk Drilling Lars Østergaard: "We have seen correlations between the objective performance data that we collect on the rigs and the subjective data we have collected from customers for several years. That gives us an idea that we are on the right track."

PHOTO: PETER ELMHOLT



Building the perfect

OPERATED WITH DATA | From computer-simulated design trials to fully automated cranes that learn and communicate, APM Terminals' new container terminal in Maasvlakte II in the Port of Rotterdam is being built and operated with data.

BY JOHN CHURCHILL

> Rik Geurtsen has a pretty good idea of what Maasvlakte II (MVII) will be capable of once it opens for business on 1 November. He has already seen it in action – and dozens of versions of it – on a computer screen.

"We started with the productivity target and other factors we knew like vessel size and vessel type that would call at the terminal as well as expected delays, and from there we can play around with yard layouts and different equipment," says Geurtsen, Senior Project Manager for Operations at the new terminal.

Computer simulations were carried out over the last six years by a specialist company, which allowed APM Terminals to test the integrity of the fully automated concept in a variety of scenarios in a realistic peak-type work situation.

"Without simulations, we would only have our assumptions. It gives us a way to see how it performs before we begin an expensive and time-consuming construction," says Geurtsen. "Of course, it cannot



"Having all the data doesn't mean it's going to be easier to get high performance from the terminal, but it does make it easier to identify the causes of poor performance," says William Rengelink, Technical Integration Manager

be made perfect on a computer, but it gives us a necessary degree of confidence in the design."

If productivity slows during the day at a typical terminal, multiple factors could be involved, from equipment problems, changes in vessel schedules to human crane drivers stopping to open a soft drink or tie a shoelace.

That is a far smaller problem here. The 27 rail-mounted gantry cranes and their smaller assistants, the 36 steel-bed-like

Safer terminal traffic

Traffic is the leading cause of fatalities in container terminals, according to APM Terminals' safety data. It is this interaction between people and machines – trucks, fork-lifts, reach stackers, mobile cranes – where the majority of serious accidents happen.

In Maasvlakte II, this interaction will be almost completely removed since no people will be working on the yard. Human drivers will operate the two barge cranes and the two rail cranes, but from the safety of their cabins. The eight ship-

to-shore cranes will be remotely controlled from the nearby office, while the 26 rail-mounted gantry cranes and the 37 'automated guided vehicles' bringing containers between the stacks and the ships will be operated by computer systems.

Only truck drivers will still be regulars in the yard, but the terminal's Auto Truck Handling feature is designed to ensure they stay out of harm's way.

Read more page 38



"Terminal assistant Rene Heij (yellow hat) and a truck driver load a chassis of one of the 37 automated guided vehicles or 'AGVs' on to a truck.



Watch the terminal in action.

terminal

Multiple cameras mounted on the ship-to-shore cranes provide a variety of viewing angles for Jan Peeman, a crane operator, testing the remote controlled cranes.



Jan Peeman talks about his new job.

vehicles that carry containers between the ship and yard, are equipped with GPS and Transponder-based tracking, and the ongoing communication between the machines and computer systems is logged.

"We have all the data. With constant location and operational instructions-related data streaming between the machines

PHOTO: DANNY CORNELISSEN



PHOTO: ANNET DELFGAUV

and our systems, we have that granularity and transparency to get to the root of any problem," says William Rengelink, Technical Integration Manager for the project.

SIFTING THROUGH TERABYTES

And all of that back and forth communication will be stored in two nearby data centres, each the size of a large meeting room, consisting of eight server racks. This is a treasure trove for the future Process Excellence department, and the project team of 40 operations and IT specialists. With it they will be able to work their way through every performance failure that happens every day to find the cause.

For example, if a crane waits ten seconds for an AGV, it is ten seconds of unproductive activity. Why was it late? Was it due to a system issue or was the stacking not optimal?

"Having all the data doesn't mean it's going to be easier to get high performance from the terminal, but it does make it easier to identify the causes of poor performance," says Rengelink.

"Improving it from there is a different challenge because we may have to fix systems or reprogramme a vehicle or interview a crane operator or all of the above. But no doubt having the data gives us a huge advantage for reaching our targets." *

MAERSK OIL:

A seismic shift

DATA GATHERING | New innovations in seismic data gathering led to a major breakthrough in Maersk Oil's Culzean field in the North Sea

BY MONIKA CANTY

> Deep beneath the turbulent North Sea waves, at a location almost equidistant between Denmark and the UK, a giant gas field capable of producing up to 5% of the UK's domestic needs awaits development.

The field is called Culzean, a flagship project in the Maersk Oil portfolio and one of the largest gas discoveries of recent years in the North Sea. Development of the field recently took a leap forward with the announcement that USD 4.7 billion will be invested by Maersk Oil, and partners BP and JX Nippon, on the construction of the production facility. Installation begins in 2016 and drilling contractors have been signed, with first gas expected in 2019.

DEPENDENT ON THE DATA

While Culzean could one day become a vital new energy resource for the UK, accessing the gas is no easy task. Operating in the North Sea is technically challenging, and with the reservoir located 4,300 metres below sea level, Culzean presents unique dangers related to high pressures and extreme temperatures.

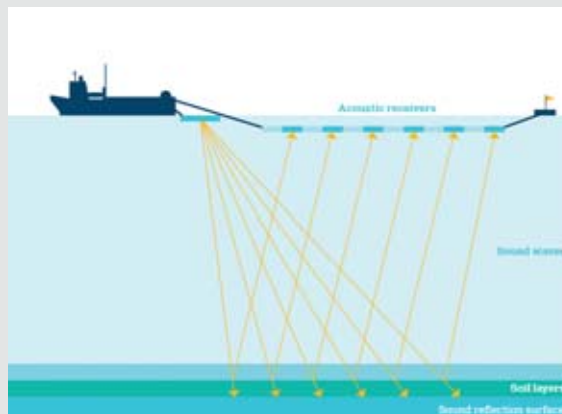
Before taking the leap to develop in such an inhospitable environment, a massive amount of seismic data must be accumulated.

In fact, the seismic data sets are so vast that the geophysical industry has earned a reputation for being the third most data-intensive industry globally after finance and defence.

The science behind seismic

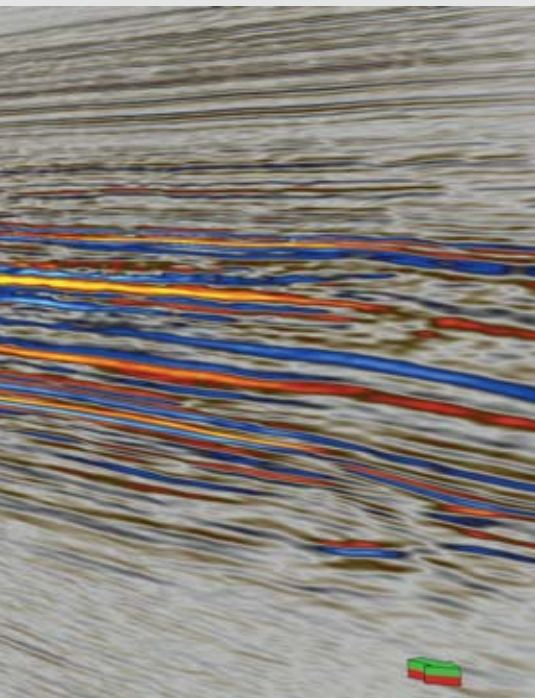
Seismic data provides geoscientists with the clue of where to drill for oil and gas. To gather seismic data, sound waves are sent into the earth's subsurface where hydrocarbon accumulations could be trapped in the geological layers. The waves are reflected back to the surface where they are recorded by digital sensors. Computers process the raw data from the sound waves to reconstruct a 3D image of the earth's crust. Those images are analysed to try and pinpoint where oil and gas reservoirs are located.

In offshore exploration, seismic data is usually generated by a vessel which sails slowly around the exploration area sending out acoustic waves. The vessel tows a high-tech array of ultrasensitive hydrophone sensors behind it on a series of streamers which can be up to 20 km long, making this device one of the largest-moving objects on the planet. In Culzean, the sensors were placed directly on the seabed, allowing a much larger hydrophone density and avoiding propagation noise in the water layer, which meant a much clearer picture could be formed.



Pierre Lanfranchi, Head of Global Subsurface Technology at Maersk Oil, estimates that if the data gathered in just one day during a typical seismic survey was stored on CDs, the pile would stretch

almost as tall as the Eiffel Tower. "Not only do geoscientists gather a vast amount of data, but we do some very intensive and complex calculations with it," says Lanfranchi. "Processing the data



Placing sensors on the seabed allowed for a much clearer image to be formed from seismic data at Culzean. The yellow lines are a salt diapher. The blue area is a 3D model of reservoir.



How the new production facility at Culzean will look. Installation begins in 2016.



PHOTO: MAERSK OIL

“Not only do geoscientists gather a vast amount of data, but we do some very intensive and complex calculations that would take several decades on an ordinary computer”

PIERRE LANFRANCHI, HEAD OF GLOBAL SUBSURFACE TECHNOLOGY AT MAERSK OIL

requires complex algorithms. An ordinary computer would need several decades to deliver the necessary information, so only by using the most advanced super-computers can we process the data in the required timeframe.”

Geophysicists working on Culzean employed innovative technologies to acquire the seismic data, one of which involved placing 4,000 sensors directly on the seabed. The sensors were used to record reflections from acoustic waves being sent from a seismic vessel sailing above. The vessel covered a 20,000 square kilometre area, sending out a sound wave every 20 seconds for around two months, and the team worked intensively for eight months to transform this recorded data into a set of images of the subsurface.

MORE TO BE EXPLORED

The new technology – known as ‘ocean bottom cables’ – meant a much clearer

picture could be formed for the Culzean team. “Placing sensors directly on the seabed provided a superior image of the subsurface,” says senior geophysicist Line Plouman Jensen. “The depths of the different geological formations are better understood and the data meant we could build a convincing geological model in a complex structural setting. This information is invaluable to drillers in such a high-pressure, high-temperature environment.”

There’s still much more information to be gleaned about what lies beneath Culzean from the seismic data, and this will be extracted in the years to come. “There is a wealth of information in the data set still to be extracted, analysed and understood. The data will work as an excellent baseline for future time-lapse seismic surveys used to monitor the depletion of the Culzean field,” says Jensen. ✦

Looking back...



Big data in the making

Customer service with the most modern facilities of the mid-1990s – head set and all the relevant information on the computer screen. Customer data, vessel data, cargo data, voyage data and price data, were all compiled from various systems to improve customer service in 1996.

All work, and so

GAMIFICATION | Playing computer games is fun, but Maersk is now using games as a way to get a message across on a whole new level.

BY MONIKA CANTY

➤ In a classroom in Esbjerg – the hub of Denmark's oil and gas industry – the air buzzes with excitement. Given the level of enthusiasm it's hard to believe that this is a science lesson. But today the students at Esbjerg Gymnasium are battling it out for a high score on Quest for Oil, an interactive computer game developed by Maersk.

The game was created to provide a taste of real-life challenges facing those who work in the oil and gas industry. To win the quest, players have to locate oil reserves in Qatar and the North Sea, and complete challenges around exploration, drilling and production in a race against the clock.

SPARKING ENTHUSIASM

Maersk plans to distribute the game to every secondary school in Denmark and to schools overseas (along with some specially developed teaching materials and homework assignments) as an innovative way to spark enthusiasm among students in pursuing a career in the oil and gas sector, which is currently facing a chronic skills shortage.

The idea of using computer games for business purposes – or 'gamification' as it's known – is being seized on by companies like Maersk as a way to get their message across in an engaging way. "Many companies are using games as a powerful learning and communication tool," says Simon Egenfeldt-Nielsen, Head of Serious Games Interactive, which helped develop Quest for Oil. "The more actively we engage and interact with an idea, the bigger the impact, and games are the best medium there is for doing this."

Quest for Oil is certainly holding the attention of the secondary school students – not always an easy task, says their teacher Clea Schneider. "These days students all have computers in class so it can be impossible to get their full attention with distractions such as Facebook and Messenger. But today the learning itself is the distraction, and I think the competitive element is something this generation is very excited by."

TRANSFORMATION TAKES PLACE

But it's not just kids that are fired up by competition; it's adults too. So when a major restructuring took place in Maersk Line's Centre Trade & Marketing department, the project team chose to launch a computer game for employees as a way to help them get to grips with their new roles.

"The challenge was to make sure everyone in the department understood the changes and what the new roles would entail," says Martin Nykjaer, Global HR Business Partner, Maersk Line HR. "We didn't want to present people with another PowerPoint and we thought a computer game would be an interesting way to engage people in the changes taking place."



Anja Andersen, Brand Manager, Group Communication and Branding, instructs students at Esbjerg Gymnasium in playing Quest for Oil.

"We didn't want to present people with another PowerPoint and we thought a computer game would be an interesting way to engage people in the changes taking place"

MARTIN NYKJAEER, GLOBAL HR BUSINESS PARTNER, MAERSK LINE HR

The Transformation Game challenges players to move across an office floor, taking on different roles in the department and tackling a series of dilemmas that might be faced by someone doing the job in real life. Players can compete against the clock, and each other.

After initial scepticism the whole department was hooked. "At first people said: I really don't have time for this. I've got so much work to do and now I'm being asked to play a computer game," says Nykjaer. "But once they realised how true to life and challenging the

me play



PHOTO: SØREN THOMSEN

dilemmas were, the enthusiasm took off. It was also an eye-opener to many who found they didn't get all the answers right in the first go."

"There are some quite competitive people in the team," he adds. "We had people playing multiple times trying to edge up their place on the high scores list, and you could see assistant trade managers challenging the trade managers and beating them."

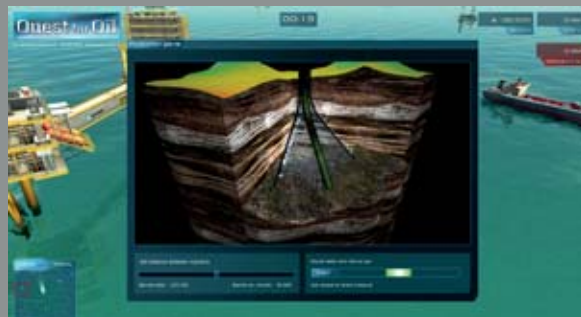
REACHING THE NEXT LEVEL

The Transformation Game was such a hit that the plan now is to roll it out to new employees as a way for them to familiarise themselves with the department, and to overseas employees for a deeper insight into what's going on at headquarters.

Meanwhile there are big plans to take Quest for Oil to the next level too, says Anja Andersen, Brand Manager, Group Communication and Branding. The game is being distributed to high school students in the United States of America this summer, and other oil industry hubs such as Norway and others are in the pipeline. "We also have ideas to make it multiplayer, mobile, expand the locations on the globe of where we do business and integrate more key industry messages such as safety, environment or people."

All of which sounds much more fun than listening to another PowerPoint presentation. *

Completing the Quest for Oil:



CLEA SCHNEIDER, TEACHER

"The advantage is it's so illustrative. We are studying energy as a topic so a lot of the themes on how oil develops and where it's trapped were played out in the game. I think it will engage students in the subject. Geology has always had a hard time selling itself – I really don't know why! It's the most exciting topic ever."

MORTEN JONATHANSEN

"Quest for Oil was really good fun. We could use what we have already learnt in lessons. I think it would be fun to work in the oil industry. Geology is the most fun science subject."



CECILIE TRAB

"It was good fun. I think it helped that it wasn't just a teacher standing there and talking to us, and we could watch the videos and participate. I'm not really interested in working in oil though."



GUSTAV WOLFF

"We are studying geoscience – this combines physics, chemistry, geology and geography. So you see both the side regarding society such as oil and the oil industry, and also the nature and the environmental perspective."



PHOTO: SØREN THOMSEN

Maersk Line links

AUTOMAKERS TO

TOMORROW'S UNKNOWN WINNERS | The automobile industry is the picture and paradox of globalisation. Its complex supply chains cry for centralisation, but the industry is local by necessity. Establishing plants in growth markets, automakers face new challenges and Maersk Line is poised to help automakers set up in new markets while continuing to cater for existing plants and markets.

BY ANDERS ROSENDAHL

> Today's automotive assembly plants produce a vehicle every minute. With roughly 2,000 parts to one vehicle and lean inventories a permanent fixture, the steady and consistent flow of parts through the supply chain is essential. This is a perfect match for Maersk Line's new automobile division.

"The key thing for automotive plants is to find the necessary parts in time, so you don't have a USD 20,000 vehicle not being built because a USD 1 part is missing," says David Gonsalvez.

Gonsalvez, a supply chain management professor at MIT-Zaragoza, knows this challenge better than most. As director of the global supply chain strategy at

General Motors, he was responsible for planning the steady flow of parts to plants for years. And the challenge is easy to put into words.

"You come to work every day not looking for what goes right, but expecting that something is going to go wrong. And you have to be ready to handle that. That's the core of the business," Gonsalvez explains.

MANAGING EXPECTATIONS

Lars Kastrup heads Maersk Line's automobile business segment. The team focuses on consistent delivery, so the automotive plants can retain their lean inventories without increasing the risk.



PHOTO: MAERSK LINE

"The key thing for automotive plants is to find the necessary parts in time, so you don't have a USD 20,000 vehicle not being built because a USD 1 part is missing," says David Gonsalvez, chain management professor at MIT-Zaragoza.



"In our business, the customers do not want to hear that things have gone well. They want transparency, and if a container is delayed, we are on the phone to find a solution so they get the parts," Kastrup says.

Another key service is the ability to manage potential variations in volumes, for example 200 containers one week and 300 the next. Equally important, the team has decades of experience from the industry.

"Industry knowledge is extremely important to these customers, and they appreciate being able to speak with someone who knows the business. Exceptions are unavoidable, but we can proactively manage them

NEW MARKETS



PHOTO: ALAMY

Hyundai is the world's fourth largest automotive producer and a very important key client for Maersk Line.

"When you reach a critical mass, you start building vehicles locally. Since the product is so large, that always makes sense. Currently, we are seeing a lot of production moving to Asia, Eastern Europe and South America"

DAVID GONSALVEZ, SUPPLY CHAIN MANAGEMENT PROFESSOR AT MIT-ZARAGOZA.

and find ways around when that is needed," Kastrup says.

Therefore the first goal is to target major industry players, many of which are Maersk Line customers already, win a larger share of profitable business, drive up customer satisfaction and outperform competition.

ADDING VALUE

With globalisation set to increase, David Gonsalvez sees new production facilities opening in emerging markets.

"When you reach a critical mass, you start building vehicles locally. Since the product is so large, that always makes

sense. Currently, we are seeing a lot of production moving to Asia, Eastern Europe and South America," he says.

"This is challenging if you don't have people who are familiar with the language, the culture and how to get things done in a particular economy. You have to build that skill up within your organisation. Similarly, you have to build supply chain capabilities locally. In many cases, you're starting from scratch."

"If automakers can overcome the challenges, the efficiencies that they gain from producing locally, or from taking advantage of local conditions to produce for a global market, are very large," Gonsalvez says.





While small and medium-sized automotive companies in particular cannot be in every country, they could sell their product if somebody were to enable it.

"The key thing for a shipping or logistics company is to transform from being purely a transport provider to becoming a partner that adds value to the product. And if you understand their business, you can propose solutions," Gonsalvez says.

OPENING NEW MARKETS

Currently, Lars Kastrup and his team are targeting a number of up-and-coming Chinese automakers, with the specific purpose of helping to drive their global growth. These companies may not be household names today, but that is exactly the point according to Kastrup.

"Hyundai has been a customer since the early 1990s, shipping to Europe. The brand was establishing itself in the market, and we have been able to assist their global growth. Today, Hyundai is the world's fourth largest automotive producer and a very important key client for Maersk Line," he says.

"Specifically, we have jointly grown with Hyundai into Russia and Latin America, and this is something we would like to replicate with newcomers from China. In this sense our global network is also a key selling point."

The Chinese automotive industry is booming and double-digit growth rates are nothing out of the ordinary. Exports are also rising. By next year, Lars Kastrup aims to have five partnership contracts with such companies, with the specific purpose of developing them abroad, for instance with joint growth aspirations in African countries.

BEYOND PRICING

So far, the automotive industry has located manufacturing at certain locations for reasons primarily linked to cost. Logistics have been an afterthought. Recently, Lars Kastrup sees a change to that mindset.

"Instead of seeing logistics as a cost issue that just needs to be negotiated as much as possible, we are now seeing an interest, very early in the process, to have the right logistics partner that can provide transparency and add value throughout the supply chain," he says.



PHOTO: PETER ELMHOLT

"Industry knowledge is extremely important to the customers, and they appreciate being able to speak with someone who knows the business. Exceptions are unavoidable, but we can proactively manage them and find ways around when that is needed," says Lars Kastrup, head of Maersk Line's automobile sector.

term commitment to that market, as this is a key factor in their ability to utilise the capacity at the plant.

Longer contracts with sustainable freight rates are therefore not uncommon for Maersk Line's automobile sector, as the market is recognising the value proposition to the industry. In return, Maersk Line commits investments and resources.

BE PREPARED

David Gonsalvez sees these trends in emerging markets representing much opportunity.

"People don't do globalisation for globalisation's sake. The concept is this: how do you make your product more efficiently? How do you make it more cost effective? Right now we see different levels of maturity in different operations. Ideally, everybody would like to access to the same process and the same operation, throughout the world. Even in the next decades, we are not going to see that kind of consistency," Gonsalvez says, adding:

"The key thing is being able to understand that the winners are those who have the ability to identify the trends that are happening in the world, understand how they are going to influence their business and then prepare accordingly before anybody else sees it." ❄

Therefore customers are not necessarily interested in negotiating contracts every month. If they build a plant worth USD 1 billion in an emerging market, they are more interested in Maersk Line's long-

Zaragoza Logistics Centre

Zaragoza Logistics Centre (ZLC) is a research institute established by the Government of Aragon in Spain, in partnership with the Massachusetts Institute of Technology and the University of Zaragoza.

ZLC has started a research partnership with Maersk Line Technology Innovation, seeking to improve supply chain transparency and predictability within automotive and other industries.

"You also have to risk losing"

Alejandro Goren

Born: 1977 in Córdoba, Argentina (37 years old)

Education: BA in Business Administration with a minor in Marketing

Position: Reefer Sales Executive

With Maersk Line: Since October 2012

ROLE MODEL | Praised as one of Maersk Line's absolute top performers in sales in 2013 after only 18 months in the shipping industry, Alejandro Goren stands out as a role model for his colleagues.

BY NINA SKYUM-NIELSEN

> "I can hands down say that there is no single week when I don't speak to my key clients at least once or twice. That's the only way I can stay in the loop and know exactly what's going on at their end, which is so important for business. I see these relationships as partnerships, and partnerships have to be nourished."

When it comes to customer relationships, consistency and persistence are essential elements in Alejandro Goren's modus operandi.

Born and raised in Cordoba, Argentina, with a one-year adventurous stint in Alaska when he was only 17, Goren graduated in Israel with a degree in business administration. He then moved straight to Toronto, Canada for his professional debut and subsequent blossoming career.

In other words, 33-year-old Goren has always liked to go off the beaten path, and his untraditional ways paid off in April 2014 when he was one of ten Maersk Line sales representatives to accept the Sales Master Award for a stellar performance.

TEAMWORK AND PARTNERSHIPS

Although Goren only joined Maersk Line Reefer Sales in Buenos Aires in October 2012, the motivation for the award reflects his enormous success: "Alejandro's ability to deselect less profitable business and to build a healthy account portfolio based on a medium- and long-term business set-up resulted in an outstanding achievement. Alejandro delivered a 192% result to his business target, with a total revenue of USD 82 million."

The result triggers curiosity: how does he do it? When asked, Goren immediately points to the massive support he believes he has experienced from colleagues all over the world.

"I could definitely not have done this by myself. I would be lying

if I said it was easy for me to join an entirely new business and understand the complexity of it. People around me absolutely carried me through the first difficult months, sharing their knowledge and tips and tricks of the trade."

WIN SOME, LOSE SOME

Maybe a more surprising edge to Goren's attitude and way of working is his belief in the fact that you can't always win. "You need to be able to learn to lose," he says with confidence. "It doesn't hurt to have that experience once in a while; I actually think it's beneficial. My advice to others would be not to get too crazy if you lose some business – it happens. You will be back with other results."

As for Goren's own immediate ambitions, he says that he will feel both 'blessed' and 'lucky' if 2014 proves to be another winning year. "Would I like to receive the Sales Master Award a second time around? Absolutely. When all is said and done, it is an achievement I'm immensely proud of." 🇩🇪

"I could definitely not have done this by myself. I would be lying if I said it was easy for me to join an entirely new business and understand the complexity of it"

ALEJANDRO GOREN, REEFER SALES EXECUTIVE

"IS THIS OUR RESP

RESPONSIBLE PROCUREMENT | Manning agencies, security firms, yards and dry docks are just some of the high-priority suppliers in Maersk's new global series of supplier workshops, under the umbrella of responsible procurement.

BY YI HUI TAN

> From pens and paper clips to personnel on board an oil rig, the Maersk Group draws on the services of more than 110,000 suppliers. But how does a Group of Maersk's size ensure that suppliers live up to the Group's high ethical standards, personal safety standards and labour conditions?

Maersk not only ensures that subcontractors meet obligations; subcontractor's suppliers must meet them too. Therefore, the subcontractors not only audit their own suppliers, but also those in the next link of the supply chain.

Maersk Procurement is currently on a global road show, conducting a series of responsible procurement workshops. By the end of the year, between 50 and 100 suppliers will have participated in the workshops. Manning agency Faststream Recruitment is one of them. The company offers recruitment services to clients worldwide within the oil, gas and maritime services industry.

CHALLENGES ARE GLOBAL

"Almost all our major clients are serious about responsible business practices, but

Simon Clements, Group Commercial Director of Faststream Recruitment, one of the suppliers who have participated in the Supplier Development Programme, says that among all their clients, the Maersk Group is "at the forefront" of being serious about responsible business practices.



"Responsible Procurement has become an important part of how we establish new supply chain operations in high growth markets, and the main challenge is how to monitor enforcement of good work and employment conditions for the sub-contractors and create an awareness of this," says Nikolaj Jacob Jessen-Klixbull, Head of Global Supply Chain operation, Group Procurement Drilling

100 suppliers will participate

By the end of year, between 50 and 100 suppliers will participate in Responsible Procurement workshops worldwide. For Maersk, the main purpose of the programme is to ensure that suppliers' practices are fully aligned with the Group's Third-Party Code of Conduct. This Code sets the framework for socially and environmentally responsible business practices for our suppliers.

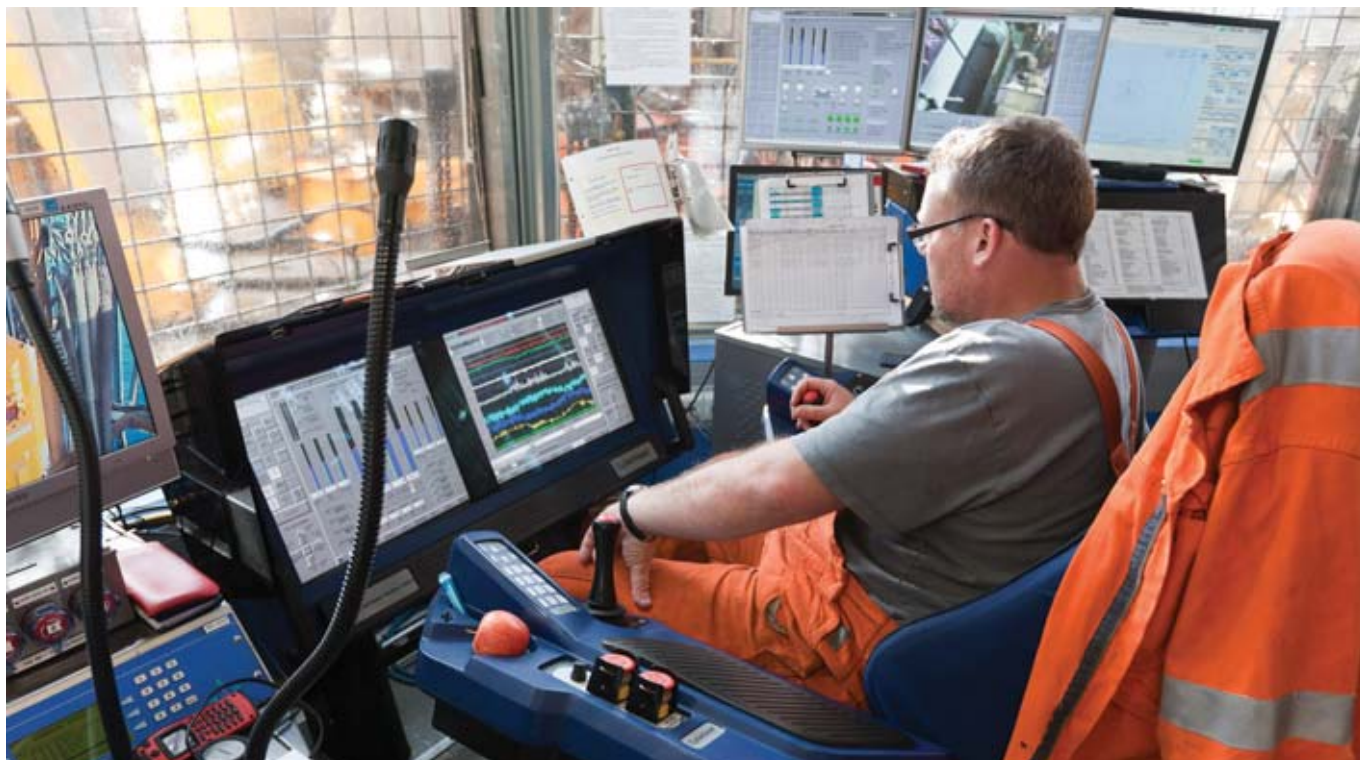
"We start out by showing examples of how businesses can, perhaps unknowingly, have a negative impact on workers and/or the local environment and ask a simple question – Is this our responsibility?", says Anna Gaarde from Maersk Group Procurement.

"The question sets the scene for discussing where companies can unwillingly create or be involved in creating a negative impact on the societies where they operate, and why it is important to take a proactive approach in mitigating potential negative impact."



The Supplier Development Programme ensures that suppliers' practices are fully aligned with Maersk's Third-Party Code of Conduct. A workshop being conducted for suppliers in Cameroon.

ONSIBILITY?"



Manning agencies that recruit rig personnel are an example of suppliers that have a long-term relationship with business units such as Maersk Drilling, and which are of high priority from a Responsible Procurement perspective.

Maersk certainly seems at the forefront of ensuring this is acted upon," says Simon Clements, Group Commercial Director of Faststream, who was representing one of the manning agencies present at the recent Supplier Development Programme workshop.

"The main challenge we face is that the oil, gas and maritime industry is so 'global' that we are working with candidates of all nationalities in almost all locations around the world. This stresses the need to understand and adhere to local legislation on issues such as employment rights, taxation and immigration, to name a few," says Clements, adding that he left the workshop committed to working with Maersk on continuous development and alignment.

FOCUS ON THE CONDITIONS

Manning agencies that recruit personnel to service and maintain rigs are an example of high-priority suppliers. Maersk Drilling seeks to prevent and mitigate human rights risks in recruitment and agency employment, such as discrimination, unfair labour conditions and involuntary

What the audits say

- In 2013, 14 audits of some of the Group's strategic and highest Responsible Procurement priority suppliers were conducted by external, independent auditors.
- The audit findings reveal that issues pertaining to labour and human rights constitute the most critical improvement areas for the suppliers audited.
- One example is workers not having sufficient time off. Another is employers withholding personal documents such as passports of foreign workers as a condition for employment. Both are in clear violation of the rights of freedom of movement and freely chosen employment.

labour. Examples of other 'high priority' suppliers include security firms, terminals, yards and dry docks.

"Responsible Procurement has become an important part of how we establish new supply chain operations in high growth markets, and the main challenge is how to monitor the enforcement of good work and employment conditions for the subcontractors and create an awareness of this," says Nikolaj Jacob Jessen-Klixbull, Head of Global Supply Chain Operations,

Group Procurement Drilling.

He concludes: "As we continue to work with new suppliers and countries, we also become wiser on how and where to spend our time and energy to get the most value out of our cooperation with suppliers, showing them the benefits and opportunities of complying with our due diligence and Responsible Procurement programme." *



Ugly duckling becomes billion-dollar port

MULTI-PORT | As a multi-port, Pipavav is an outlier in the APM Terminals' world of container terminals. After tough beginnings, the port has not only turned profitable; it recently emerged as a billion-dollar company.

BY ANDERS ROSENDAHL

➤ Despite APM Terminals' stringent container focus, the portfolio contains a few exceptions, including a full-blown multi-port. This, however, was never set in stone, and when Prakash Tulsiani took the position as managing director in 2009, he took a critical look at the mix of activities at APM Terminals Pipavav in India.

"We considered selling the non-container facilities or converting to containers. However, we decided to keep them. The infrastructure was prepared, and it would have taken a lot of investment to change it, which wasn't very attractive. Instead we gave it a try," Tulsiani recalls.

Hence Pipavav continued with its container and dry-bulk cargo activities. The latter translates into commodities for two key industries: coal to feed power plants and fertiliser for India's farmers.

THE TURNAROUND

Giving it a try also added to the bottom line. Pipavav was USD 30 million in the red and any positive contribution was welcome. Today, the situation is quite different, and the port made a profit of USD 30 million in 2013. Still, Tulsiani is not tempted to revisit the ideas from 2009.

Did you know that APM Terminals Pipavav:

- ✓ is located "in the middle of nowhere", as Managing Director Prakash Tulsiani puts it, and that the port shares its basic facilities, e.g. firefighting services and a medical centre, with the surrounding villages.
- ✓ is connected to India's national rail network, the largest in the world, via a 269 kilometre-long railway line built in partnership with Indian Railways. Some 65% of all containers are transported from the port by rail.
- ✓ is listed on the Bombay Stock Exchange and the National Stock Exchange of India. APM Terminals owns 43% of the stock. The remaining 57% is primarily owned by mutual funds, foreign institutional investors and pension funds.
- ✓ handles end-to-end activities of a port – "all under one umbrella" in Managing Director Prakash Tulsiani's words – including activities from receiving vessels to storage and delivery of cargo.
- ✓ has received an award for its dust control. On one side of the coal storage, a fabric curtain slows the wind. On the other, a water curtain catches any coal dust, avoiding damage to the surrounding area.

Pipavav is one of only two ports in India with double-stack capability on rail. Rail operators are creating double-stack transshipment hubs in north and west India, changing the dynamics of trade and seeing the capability emerge as a lynchpin in the port's strategy.

PHOTO: ANDERS ROSENDAHL



"We have land for much more, but we're waiting for the turnaround of India's economy and an increase in trade to materialise. New coal-fired power plants could also prompt an immediate hike in bulk demand. Meanwhile, we are taking baby steps," says Prakash Tulsiani, Managing Director at APM Terminals Pipavav in India.

"We serve a large area and we see widespread demand. Equally important, we believe that our reasoning from 2009 is still valid. The world economy was very uncertain, and it made sense to place our eggs into different baskets. Even if things are more stable now, I think this is beneficial," Tulsiani says.

Recently, Pipavav diversified even further, adding two million tonnes of liquid bulk capacity to its 850,000 container (TEU) and five million tonnes of dry bulk capacity. Also, roll-on/roll-off capacity could be on the cards. Major automakers are setting up in the port's hinterland, which could translate into additional business in terms of containers with parts going in and finished cars going out in the near future.

"We are keen on making Pipavav essential in both capacities" Prakash Tulsiani says.

BIGGER, MORE DIVERSE

In the first quarter of 2014, Pipavav cemented its status as one of Western India's fastest-growing ports. Containers were up by 16%, bulk and general cargo by 29% and profits rose above USD 10 million. New investments worth USD 77 million, increasing container-handling capacity to 1.35 million, have also been approved.

"We work by the principle that we will develop to meet the market demand. Today, we have plans to develop the container business because we have visibility on that," Prakash Tulsiani says.

But more could easily be on the way:

"We are not stopping here. We have land for much more, but we're waiting for the turnaround of India's economy and an increase in trade to materialise. New coal-fired power plants could also prompt an immediate hike in bulk demand. Meanwhile, we are taking baby steps," Tulsiani says.

PASSING A MILESTONE

Taking a giant leap, on the other hand, is a better description of another development at Pipavav: its stock price. Investor appetite has increased, seeing the share price roughly double since the beginning of the year to reach a new high of INR 124 on 19 May 2014, turning the port into a USD 1 billion company in terms of market capitalisation. ✱

NEWS IN BRIEF

20 years of oil extraction in Qatar

The Maersk Oil-operated Al Shaheen field contributes over one third of Qatar's daily oil production. To mark its 20th year as an oil-producing field, a senior delegation from Qatar paid a visit to Esplanaden.

20 years have passed since first oil was extracted from the Al Shaheen field, offshore Qatar; an anniversary which called for a visit from a senior energy delegation from Qatar to Denmark led by H.E. Dr Mohammed bin Saleh Al-Sada, Minister of Energy and Industry and Managing Director and Chairman of Qatar Petroleum.

Maersk Oil and Qatar Petroleum joined in 1992 to unlock the hidden potential of the Al Shaheen field. By transferring knowledge and experience from the Danish sector of the North Sea, just over two decades later the field has produced more than 1.4 billion barrels of oil and contributes over one third of Qatar's daily oil production.

"Al Shaheen is a very large offshore oil field that stretches over a 2,000 km² area. Its size and varying geology and oil make it a highly complex field, one that was originally considered too difficult to develop," says Jakob Thomasen, CEO of Maersk Oil.

Maintain to optimise

Maersk Oil's facilities in the Danish part of the North Sea were temporarily shut down for 12 days in June. The planned production halt is a periodic necessity to check essential equipment; a short-term loss which pays off in producing efficiently in the long run.

Keeping Maersk Oil's offshore platforms in good condition means plenty of hard work throughout the year, and periodically a production halt is needed in order to check essential equipment; a short-term loss which is crucial for long-term efficiency. As part of this cycle, Maersk Oil kicked off a major upgrade and maintenance programme.

On a cycle of four to five years, the facilities in the Danish part of the North Sea are all shut down and bigger inspections and modifications are made.

"It is part of our ongoing inspection and maintenance cycle and is important to ensure we can produce safely and efficiently for many years to come," said Mark Wallace, Managing Director of Maersk Oil Danish Business Unit.

"Whilst the shutdown will result in a loss of production, this has been included in our forecasts for the 2014 production, and thus communicated to the market."

Securing the future of Danish oil production

PRODUCTIVE LIFETIME | New ideas and technology are needed to extend the productive lifetime of oil and gas in the North Sea. Denmark is no exception, and this is why the Danish Underground Consortium (DUC) has high expectations for its DKK 1 billion investment in a new research centre.

BY CHARLOTTE HOLST

> 100 researchers, ten years and DKK 1 billion. Just some of the impressive numbers behind the newest research centre, soon to open its doors at the Technical University of Denmark (DTU). There are high hopes that the ideas generated here will lead to new technology that can help extract a larger potential from the Danish North Sea.

"The centre is an investment in extending production from the Danish sector of the North Sea. We have already been producing oil for over 40 years, and there is a need for innovation to continue for many more years to come," says Troels Albrechtsen, Head of Corporate Technology and Projects in Maersk Oil and Chairman of the Danish Underground Consortium, Operations Committee.

"Our expectations for the centre are high; otherwise we would not have invested in it," says Albrechtsen. "By providing security for the researchers with a long grant period, and close cooperation with the industry, we want to create the best conditions for achieving results that can come into practice. However, we also know that all research is attached to uncertainty," he says.

CONNECTING INDUSTRY AND RESEARCH

An important part of the equation is the director, Bo Cerup-Simonsen, a former DTU academic and career engineer. He previously headed Maersk Maritime Technology, where he most recently worked on the

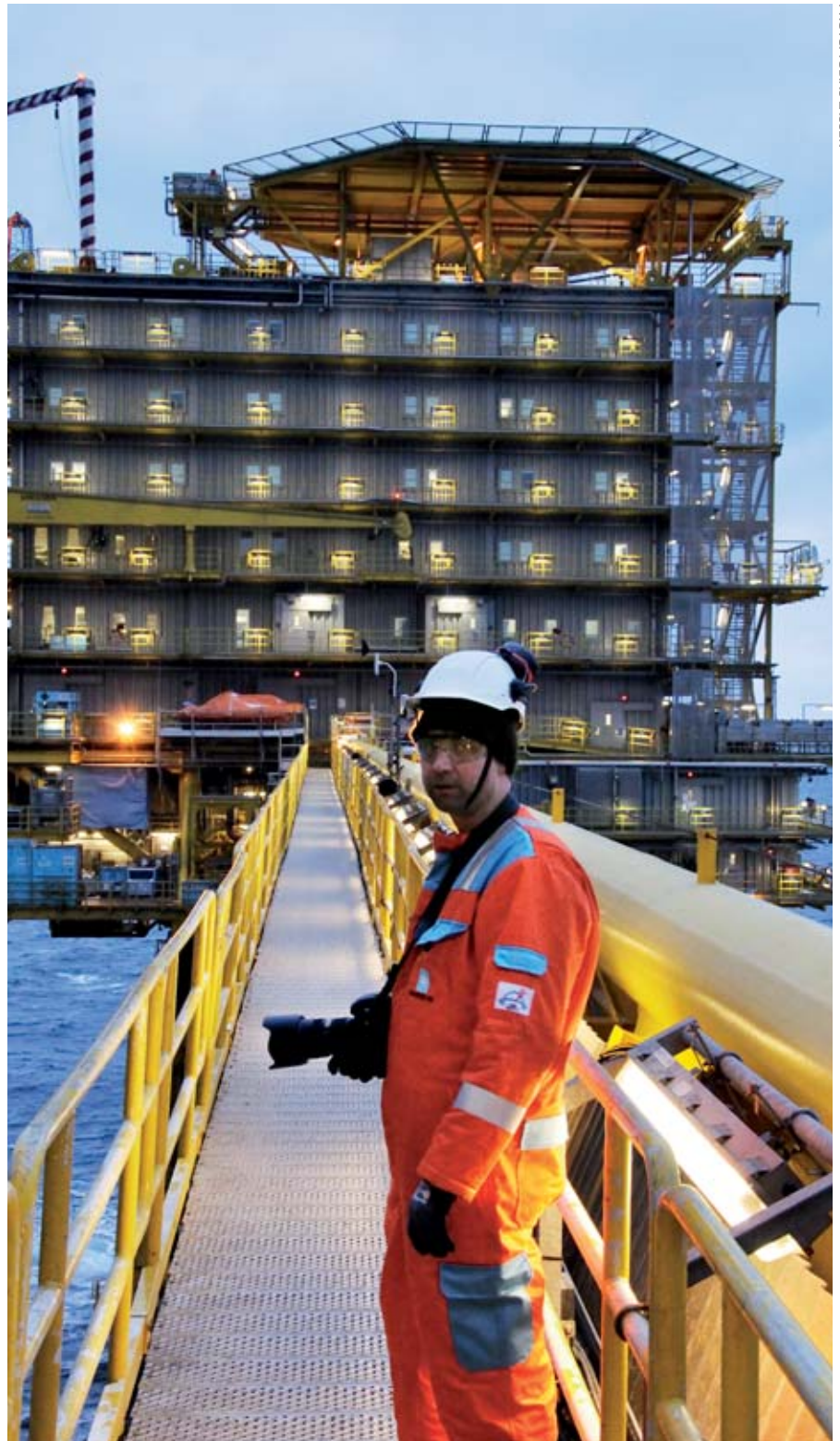


PHOTO: TOBIAS LASSEN

There are high hopes that ideas generated in the new research centre at the Technical University of Denmark will lead to new technology, which can help extract a larger potential from the Danish North Sea.

boundary between research and application of technology with one of the world's largest vessels, Triple-E. His new assignment at the oil research centre is in many ways similar and just as big.

"Researchers and operators in industry normally have very different cultures, languages and mind-sets. One of my tasks will be to help get the two different worlds to collaborate. I believe that if we can get these two groups of extremely resourceful people to work towards the same goal, we can achieve great results," says Cerup-Simonsen.

BILLIONS AT STAKE

Even though the goal for the centre is simple, it is not easy. Even after 40 years of production there is still a high potential in the Danish North Sea; however, it is complicated and can be expensive to improve production from the mature fields.

Today, recovery rates in the Danish sector of the North Sea are anticipated to level off at around 26% of the total volume of oil in place. The recovery level was made possible by Maersk Oil's innovative approach to horizontal drilling and water floating. If the new oil research centre can find new methods to increase this, it could contribute billions of kroner in additional revenues.

According to figures from the Danish government, each single percentage-point increase in the recovery factor translates to around DKK 70 billion in additional production value.

"The subsurface is complex and therefore innovative thinking is needed to help increase the recovery factor. Every additional barrel of oil that can be recovered from the North Sea creates more tax revenue for Denmark. At the same time, it can help to prolong Denmark's energy supply independence for a longer period than previously anticipated," says Cerup-Simonsen.

In order to succeed in its goal, the new centre will attract scientists at the highest levels from Denmark and abroad, while also contributing to the education of tomorrow's top oil engineers. *

From energy-efficient vessels to chasing oil barrels



PHOTO: MAERSK OIL

PORTRAIT | For over a decade, Bo Cerup-Simonsen has led research and industry integration efforts, most recently as the head of Maersk Maritime Technology. Now he will be heading a major new oil research centre, returning to the university where he was once a researcher.

BY CHARLOTTE HOLST

When Bo Cerup-Simonsen was offered the job as leader of a DKK 1 billion oil research centre, the answer was a yes without hesitation.

"It is a challenge and a potential I simply could not say no to. Setting up a new research centre of highly skilled scientists in close collaboration with other universities and the industry and with such a meaningful goal – that is an opportunity which hardly comes around twice", he explains.

Cerup-Simonsen, 46, originally trained as an engineer and received his PhD from DTU. His thirst for research was still not quenched, and from 1997 to 2003 he was employed at DTU as an Associate Professor when he left. After that he managed Maritime Technical Consultancy at Det Norske Veritas' headquarters for five years, and most recently has spent six years as head of Maersk Maritime

Technology, the Maersk Group's own highly specialised competence centre.

The combination of leadership experience and deep insight into the university environment, as well as highly technical industries, gives Cerup-Simonsen a great advantage in his new job that will be key in succeeding at the task ahead.

"To solve a challenge like this will require deep research, cross-disciplinary collaboration and interaction between academia and industry. None of that is particularly easy but the combination of great societal value and progression and application of advanced science is exactly what I like and why I think this is a highly privileged job."



Bo Cerup-Simonsen talks about his new job.

Danish Hydrocarbon Research and Technology Centre

- ✓ The research centre will work on four areas:
 - Reservoir Characterisation
 - Enhanced Oil and Gas Recovery Processes and Concepts
 - Drilling and Production Technology Design and Concepts
 - Production Facilities and Material Research and Design
- ✓ DUC has committed DKK 1 billion to the research centre, which will be distributed over ten years. DUC consists of A.P. Moller - Maersk (operator with 31.2%), Shell (36.8%), Chevron (12%) and the state-owned North Sea Fund (20%).

The new research centre will be based at DTU in Lyngby, Denmark, and will maintain close research collaboration with the University of Copenhagen, Aarhus University, Aalborg University and GEUS (Geological Survey of Denmark and Greenland).

SVITZER

runs on bunker oil – and people

ENGAGEMENT | Compared to the rest of the Maersk Group, SVITZER has a historically unimpressive track record of low engagement. However, after identifying a number of trouble spots, SVITZER is now seeing a turnaround.

BY CHRISTINE DRUD VON HAFFNER

> Hanne Jessen has an out-of-office response to her inbox. But it's not a message saying that she's out on a spring break; on the contrary, she's touring Australia from port to port in her capacity as HR, responsible for engagement at SVITZER:

"We've identified a number of hotspots globally where confidence and trust are comparably low. During my travels, I meet up with cluster managers, local HR and crew, with the message that it actually matters that you fill in this questionnaire," Hanne Jessen says.

Working out of one of SVITZER's identified hotspots, the UK, Tugboat Captain John Nelson has witnessed some of the



recent changes to the survey – changes that have also made the response rate go up.

"I always feel inclined to answer the survey and I urge everyone to do the same,"

"During my travels, I meet up with cluster managers, local HR and crew, with the message that it actually matters that you fill in this questionnaire," says Hanne Jessen, HR, responsible for engagement at SVITZER.

Nelson says, adding that he finds it to be unfair if one doesn't fill in the survey but still chooses to vent frustrations throughout the year.

"You shouldn't file a complaint or concern unless you've answered the survey. People say they don't want to answer the survey and I say okay, don't answer it.

One + one + one add up to more than three

ENGAGEMENT | Tug Master in the UK, John Nelson, operates out of one of SVITZER's specified engagement trouble spots. He values the engagement survey, has noticed the changes and highlights the importance of not just being told how many people responded.

BY ANDREA IMSON AND
CHRISTINE DRUD VON HAFFNER

> John Nelson is used to operating in harsh conditions. As a Tug Master operating in the west coast of Scotland, his tugboat can handle every possible vessel size and every type of emergency situation. But it's not only big machinery that he needs to operate; forging close working relationships with local pilots and port authorities is also crucial, of course, as

are the relations to the crew on the actual tug. This is where John Nelson sees that the Employee Engagement Survey adds value.

"The way I see it, communication and engagement are pretty much the same thing. Transparency in communication is key at every level. And this is something I strive to achieve on my tugboat. I ask everyone how they're all doing, if they are okay. I mean, we're only three on a tug: Chief Engineer, Mate and Tug Master.

One and one and one add up to more than three. To get the best out of everyone you have to engage with them so that everybody understands what the goals are, and ensure that everybody is going in the same direction," Nelson says.

THIS YEAR'S SURVEY WAS CLEARER

Nelson would still like to see that the survey is made even more specific to the working situation – even based on their geographical location:

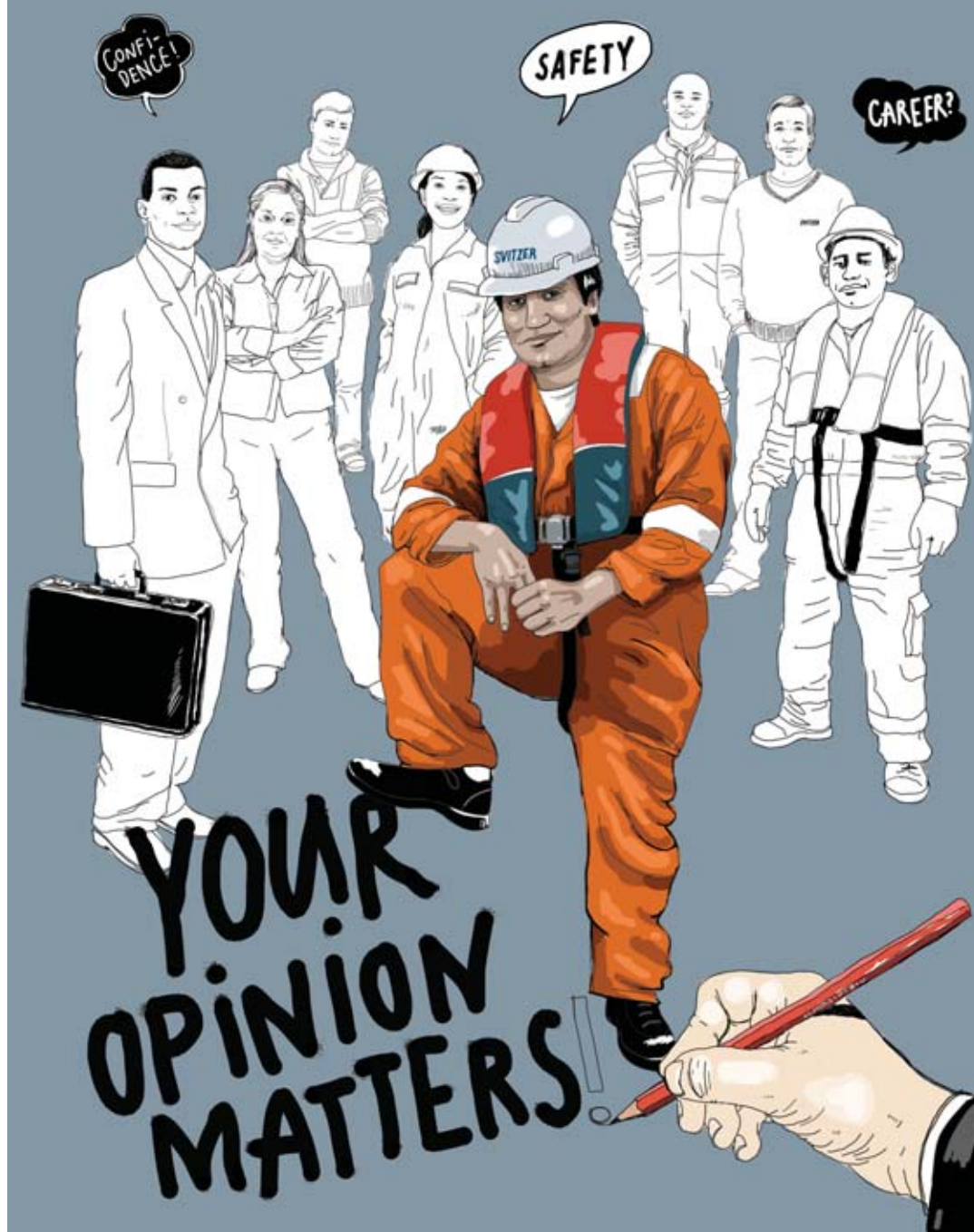


ILLUSTRATION: JULIE FLANSMOOSE



"I've noticed changes that improve the readability of the survey from one to the next, but I still think it could be more tailored. Previously, you didn't even know who you were commenting on and we received different answers on who we were rating. Whereas this year, it was clear: your line manager and their name," Nelson says.

While the technicalities around the survey leave room for improvement, the Tug Master believes in SVITZER HR's ability to respond to HR matters, as long as they know what they are. This is where he finds himself actively involved; more than once Nelson has taken it upon himself to write to HR about issues that relate to colleagues' welfare, and commends them for their timely response.

Last week Nelson attended a lecture



PHOTO: SVITZER

John Nelson, 57, worked at SVITZER from 1974-1986 and again from 2002

at the London School of Economics on 'heuristics', which refers to experience-based techniques for problem solving. This made him think about the Employee Engagement Survey.

"I will be disappointed if we are just told the results of the survey again. We don't just want to hear about how many

people responded. Why don't we look at previous years' surveys, review the comments from those and see what is yet to be done. I recognise that we have a process. I see from both sides that it can work better, but I also think that if there is continued engagement throughout then there's better improvement throughout," Nelson says. ✨



But then don't make complaints and don't make negative comments throughout the year," says Nelson, who at times has chosen to sign his survey and share his answers with management.

DEALING WITH A HISTORY OF SECRECY

The identification of hotspots is just one of the actions that SVITZER has taken to increase the engagement. And it's had an effect.

"The overall SVITZER response rate has gone up by 12 percentage points, and we've been especially pleased to witness that the engagement index in specific hotspots in the UK and the Americas also follows this trend," Hanne Jessen says.

Initiatives have included running pulse surveys and revising surveys to improve their readability, but maybe more importantly, HR in SVITZER has worked to deal with a history of secrecy and "guarded" information.

"We would hear from our employees that they've never seen the engagement re-

Actions taken

- Shorter and more readable questionnaires
- Strong communication and launch focus
- Mandatory action plans for key themes and tail-end managers
- Pulse survey on sample of low-scoring areas

The SVITZER result: Engagement up by four percentage points

- The employee engagement measured in 2012 was 66% in SVITZER versus a Group average of 76%
- The 2013 SVITZER figures saw an increase in engagement of four percentage points (from 66% to 70%)
- In 2013, the SVITZER response rate increased by 12 percentage points (from 73% to 85%)

sults. That these results were management information only, not to be shared. What we do now is communicate two rights that you have as an employee: after a week, you

have the right to see the report, and after four weeks you have the right to have a follow-up meeting with your manager conveying the results," Jessen says. ✚

Depending on economies of skill

The head of HR in SVITZER is in no doubt that higher engagement is crucial for SVITZER's financial performance. "Engagement in the workplace is not only rewarding for the employees, but also comes with financial upsides for the company," says Maria Pejter, Head of SVITZER HR, adding frankly that SVITZER runs on bunker oil and people.

"Some 65-80% of SVITZER's costs are crew costs. So we're actually depending on economies of skill – more so than economies of scale. This means that as a business, we're strongly dependent on people to go that extra mile," Pejter says.

"We've had to let go of some of our senior people who were not good leaders of their people. We were rather explicit about the fact that their managerial effectiveness scores were a main underlying reason for this, as we do want to get all management from top to bottom to pay attention to engagement."

The Group is now more than halfway through the engagement cycle as the 2014 survey is scheduled for 13 August. Time will tell whether SVITZER's progress is lasting.

"They've heard the talk and are now waiting for the walk. This is a journey. We've just got our licence to start but at least we're in a better place now than we were before," says Pejter.

"It's always been said that it's the fact that SVITZER crews are unionised which leads to lower engagement – but I've never seen this referenced anywhere else and just don't buy that argument," says Maria Pejter, Head of HR in SVITZER.



PHOTO: RENE STRANDBYGAARD



Safety courses fuelling the growth in Maersk Training

REVENUE QUADRUPLED | Maersk Training in India is very successful at offering safety courses to external clients because more and more clients are concerned for their employees' safety.

BY ANDREA IMSON

> Since Maersk Training in Chennai opened its doors to external clients in 2009, the facility has grown to a point where almost half of its business today is driven by non-Maersk clients. Fuelling the growth are its maritime safety courses, where revenue from external clients has more than quadrupled in the last three years.

"We don't want to go to clients who are only doing it for lip service. We do business with clients who really believe that this training makes a life and death difference for their people," says Satya Mitra Bagga.

He is a former seafarer who traded in the ocean for the classroom in 2007. Satya Mitra Bagga acknowledges that Maersk's reputation as a safe and responsible employer, together with its experience in promulgating a safety culture, is a big reason that clients come to them.

"Clients are very open to hearing from us. They know that we are very good at safety, and expect that the same things we have done for Maersk to make it safe we could impart to them as well," Bagga notes, as he points out that the demand for behavioural and technical safety courses from non-Maersk companies significantly increased since opening the training centre to third-party companies in 2009.

For Maersk Training, customising solutions for clients with employees who work in unique or dangerous work environments is a welcome opportunity and one in which the company is happy to take part. This has led to the introduction of more technical safety courses such as the well-received Handling of Hazardous Materials (HAZMAT) course for container freight stations.

Introduced in 2011, the Handling of Hazardous Materials course teaches employees who work in container freight stations how to deal with goods that are on the International Maritime Dangerous Goods (IMDG) list.

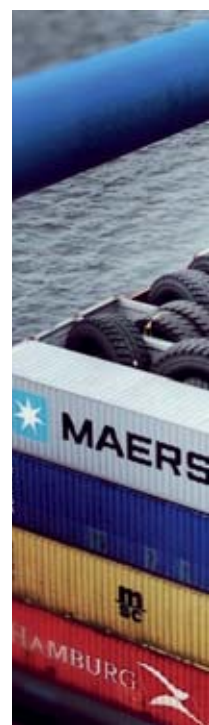
A SAFE BUSINESS IS GOOD BUSINESS

As the training centre welcomes more and more clients concerned for their employees' safety, Bagga explains:

"Businesses are not only looking at profits, but at attaining the goal of no accidents in the workplace. Yes, they want to make money, but at the same time they should have no accidents. They feel their own clients would not want to associate with them if they are not safe, and they are coming back to the starting point by saying 'okay, then let's be safe'." *



PHOTOS: MAERSK LINE



"There is **nothing** we

SPECIAL CARGO | Maersk Line's special cargo segment is seeing unprecedented growth and very comfortable profits. But what is special cargo all about?

BY NINA SKYUM-NIELSEN

➤ Say 'special cargo' to a Maersk employee not included in Maersk Line's specialised teams dealing with this area, and you are likely to be met with a slightly quizzical look. However, in more ways than one special cargo is actually the weightiest part of the overall Maersk Line business.

Take a seemingly simple item such as tyres. Each year, Maersk Line's special cargo team ensures the shipment of just under 30,000 tyres for key clients like Michelin and Bridgestone. Not just any tyres though – some of them are so huge that only three will fit into each open 40-foot container, and these will be fitted on some of the most specialised machinery in the mining industry. Special cargo is a segment that truly makes the wheels go round for some of the biggest construction companies in the world.

"It is an very interesting part of Maersk Line's business, and this area can be a third leg supporting dry and reefer business," says Nikolaj Forsberg, Global Head of Special Cargo. "We know already that our existing customers appreciate our value proposition such as fast response time, specialist knowledge and rates in line with the market, but we can definitely still do more to increase the market awareness about Maersk Line's capabilities in this segment."

With a stable yearly growth rate of 15% over the past three years, there are no immediate signs of a slowdown in the shipping of cargo in odd shapes and sizes.

When it comes to the limitations of what the special cargo specialists can get on board a Maersk vessel, the very simple rule of thumb is that 'if the crane can lift it and there is space on the vessel, we can ship it,' as Nikolaj Forsberg puts it.

His colleague in Houston, Michael Maselli, who deals with customers mainly shipping parts of oil rigs and other very big and heavy materials, is even more enthusiastic about the lack of limitations for the special cargo experts.

"To be completely honest, I can't think of anything we are not able to ship unless of course we are talking about something that would be hazardous," says Maselli.

Browsing through the special cargo photo album, it becomes clear what he is talking about. Everything from trams to buses, trains, trucks, sailing yachts and entire factories are carried with the Maersk Line equivalent to an airline's 'oversized baggage'.

EVERY UNIT IS UNIQUE

An expert in the area is Rosemary Roach, also based in Houston, the oil capital of the United States. Name one oversized piece of equipment for the oil and gas industry and there is a good chance that Rosemary has been part of ensuring its shipment from Houston to the Middle East, Africa, Azerbaijan or Russia.

"We help our clients move literally everything they need for successfully building plants, factories and rigs within their area of expertise, for instance down-hole drilling at sea or on land," says Roach. Some shipping projects take years as we make sure all parts are shipped unit by unit from one part of the world to be assembled in another part of the world."

According to Roach, what's special about special cargo is the extreme versatility and the challenge of moving cargo that some-



Everything from trams to buses, trains, trucks, tyres, sailing yachts and entire factories are carried with the Maersk Line equivalent to an airline's 'oversized baggage'.



Maersk Line calls it special cargo.

NEWS IN BRIEF

P3 alliance stopped

Following a review under its merger control rules, in June the Chinese Ministry of Commerce (MOFCOM) rejected the proposed operational alliance between Maersk Line, CMA CGM and MSC.

Group CEO Nils S. Andersen referred to the decision as "a surprise" due to the hard work put in by the partners to answer regulatory concerns and the previous approvals from EU and United States authorities. He also emphasised that while it would have been good for customers and would have helped Maersk Line lower its costs and CO₂ emissions, the business does not need P3.

"I'm quite confident Maersk Line will accomplish those improvements anyway," Group CEO Andersen said. "It has delivered on those improvements over the last five quarters in the absence of P3 and I'm confident it will continue to do so."

Vincent Clerc, Chief Trade and Marketing Officer in Maersk Line, also said that the news wouldn't prevent Maersk Line from continuing to improve its business.

"In recent years, Maersk Line has taken many initiatives to improve our services and operations to distance ourselves from competition, and this certainly won't be the last one," Clerc said. "We will continue to innovate and improve our products and services in order to compete and serve our customers better."

The journey of container shipping

What is Maersk Line's role in world trade and development? How has world trade and development shaped Maersk Line?

"Creating Global Opportunities: Maersk Line in Containerisation 1973-2013," a book published in May, makes use of unique insider knowledge and access with extensive reporting in order to answer these questions.

Maersk Line historian Chris Jephson and Maersk Group Historian Henning Morgen leverage more than 100 hours of interviews with shipping experts, current and former employees and decades of Maersk archives to tell the story of Maersk Line's rise and the development of container shipping in the context of the times.

"This is the first time that Maersk Line has opened up its archives to this extent," says Henning Morgen. "The material shows how Maersk Line over the past 40 years has influenced and been influenced by the history of world trade."

The book doesn't only look backwards. Together with the Economist Intelligence Unit, data is used and displayed in charts to develop three scenarios to describe how global trade will evolve if the world experiences a higher growth in global trade, a continuation of the existing or 'baseline' growth, or a downside, with projections to 2030.

On Maersk Line's social media, posts about the book have received good traction, with just under 100,000 views on LinkedIn and more than 30,000 on Facebook.

www.creatingglobalopportunities.com

can't ship"

times looks unmoveable. And despite the industrial feel of the segment, the human touch remains instrumental.

"I truly believe that one of the main reasons we are winning a lot of business in Maersk Line is because we have a specialised team that is able to deliver specialised service," she says.

With specialised teams in US, Netherlands and China, Nikolaj Forsberg explains that the global special cargo team has undergone a thorough transformation during the past two years.

"We have been through quite a lot of changes since the majority of the special cargo team moved from London to centre or one of our regional offices 18 months ago. We have standardised and optimised most processes and have the bandwidth to increase the volumes. Last March, we built new equipment that increased our fleet of Open Tops by about 25%," explains Forsberg.

Equipment availability in particular has turned into one of the strongest selling points for the Maersk Line special cargo team. Having the right containers, racks or flatbeds ready is essential in a business that tends to always need just a little more space.

OVERSIZED BUT NOT DISRUPTIVE

Nikolaj Forsberg emphasises that one of the reasons why the special cargo segment is doing so well is the fact that carrying this type of cargo runs smoothly alongside all other types of Maersk Line business. "There seems to be this perception that carrying special cargo is disruptive to the rest of the Maersk Line business. But it is important to remember that 92% of Special cargo is unitized, for which the load time is equal or less than dry as a global average, when displacements of the cargo is taken into consideration," Forsberg says. 📦



Push a button to save your life

INNOVATION | It's just a large green button and a touchscreen, but APM Terminals expects the 'Auto Truck Handling' feature at its Maasvlakte II terminal to turn an inherently dangerous part of the terminal into a safe place to work.

BY JOHN CHURCHILL

> Aside from the flashing yellow light sitting on top, the 'Auto Truck Handling' machine at the APM Terminals Maasvlakte II terminal in Rotterdam looks like an ordinary automated parking meter.

"We needed a way to make sure the interaction between the automated rail-mounted gantry cranes and the truck drivers was as safe as possible," says Frank Tazelaar, Managing Director of APM Terminals Maasvlakte II. "The button is very simple and very effective. It's located a safe distance away and requires the driver to hold it down until the operation is finished or everything will stop," he says.

In all container terminals, the interaction between people and machines is where accidents occur. At the Maasvlakte II terminal, APM Terminals' new fully-automated terminal being built in Rotterdam, The Netherlands, these interactions will be very limited, but the transfer area where trucks load and unload containers is one area where they will still occur.

SAFETY FIRST

At APM Terminals Maasvlakte II, the fully automated container terminal being built in Rotterdam and opening on 1 November



PHOTO: APM TERMINALS

Safety at the push of a button.

Safe and simple

- Once parked, the truck driver releases the twist locks holding the container to the truck (if being unloaded).
- The driver then swipes a terminal card that reports to the system that he/she is ready for handling.
- A flashing yellow light notifies the truck driver that it's his/her turn.
- The driver exits the truck and goes to the pedestal, where he/she must answer a few safety questions.
- He/she holds down the button to bring the crane over, confirms it's okay to proceed using the touchscreen and continues to hold down the button until the crane has picked up the box and cleared the area before confirming the operation is over.
- The driver can leave the safe zone and return to his/her truck.

2014, there will be very little interaction between people and machines, but the truck transfer point where trucks deliver and receive containers is one area where it will still happen often.

"Truck drivers are required to leave their trucks at transfer areas in all container terminals, but despite rules and regulations nothing physically prevents them from walking around the truck, observing or fixing things," says Rik Geurtsen, Senior Project Manager for Operations in the terminal. "With the button we can effectively keep them in a safe area during the entire operation." *

MY MAERSK

Ederson Gouveia

Recently promoted to Operations Manager at the Paranaguá Inland Services in Brazil, Ederson Gouveia has, at the age of 29, already spent half of his life with Maersk. He joined the Group when he was 14 years old as an apprentice.



PHOTO: JOKA MADRUGA

Maersk's youngest employee?

BY ANDREA IMSON AND MICHELE SCHIFINO

➤ Mario Augusto Veraldo, Cluster Manager for Maersk Line, was one of the first in the company who noticed the young Ederson Gouveia.

"What impressed me was his ability to acquire information and put it to good use in his work," Veraldo says.

Though English language classes were usually reserved for employees of the company, Veraldo encouraged Gouveia and his managers so that Gouveia could be a part of the programme before he was hired.

Being able to attend those classes added to Gouveia's determination and commitment to his duties. Despite his young age, colleagues and managers from the Maersk Line office in Santos City in Brazil noticed his hard work and determination, and what began as a two-year apprenticeship eventually stretched to a 15-year engagement.

STARTING OUT AS AN APPRENTICE

When he was 14 Gouveia was able to join Sealand, which would later be acquired by Maersk, through a non-government organ-

Ederson Gouveia in brief

Age:	29 years
Nationality:	Brazilian
Education:	Bachelor's degree in business and foreign trade
First job:	Apprentice at Maersk Line in Santos City
Interests:	Spending time with family, reading management and performance articles, instrumental music, solving logic and reasoning tests, TV series

isation called Círculo de Amigos do Menor Patrulheiro de Guarujá (CAMPJ) that helps young Brazilians enter the labour market through training and apprenticeships.

Just as his apprenticeship ended in 2001, Gouveia's initiative and natural interest in computers took over. "My ap-

prenticeship ended at a crucial moment when Maersk Line had just started to integrate their systems with Inland Services in the Santos Port. I learned a lot about key systems for operations which quickly helped me become a 'super user.' This led to employment options later on."

When asked how he acquired such a well-developed work ethic at such an early age, Gouveia speaks highly of his parents. "They did everything they could to in order to take care of me," he says.

His mother was instrumental in his computer training. Upon learning of her son's interest in computers, she took on an extra days work every week to help pay for a computer course.

"When I look back, I realise that they were always trying to teach me something, sometimes with no words, only attitude," he says.

PAYING IT FORWARD

Now a manager, Gouveia sees his role as yet another opportunity to pay back the chances he was given along the way. This time, it will be him urging his team to live out their potential. ✱

Who should we feature in the next MyMaersk?

If you believe you have an interesting colleague who lives our values, is a stellar performer and has helped your team achieve great results, nominate them for MyMaersk by sending an email to andrea.p.imson@maersk.com.

World's largest rig going to work

THE BIG PICTURE | The world's largest rig, the Maersk Intrepid, arrived in Ølen, Norway on 10 June 2014. The rig will stay here inshore for 50 days. The time will be used for training, installation of third-party equipment and acceptance testing, before it commences on a four-year contract with Total E&P Norge AS on the Martin Linge field.

Maersk Intrepid is the first in a series of four ultra-harsh environment jack-up rigs to enter Maersk Drilling's rig fleet. The four jack-up rigs represent a total investment of USD 2.6 billion and will be delivered from the shipyards in 2014-2016.



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